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EXAMINER

CHRISTENSEN, SCOTT B

ART UNIT	PAPER NUMBER
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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ptoboca@fggbb.com

Office Action Summary	Application No. 10/675,001	Applicant(s) ALEX ET AL.	
	Examiner Scott Christensen	Art Unit 2444	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in regards to the most recent papers filed on 1/2/2009.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/2/2008 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5-8, 11, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Eshghi et al. in US Patent No. 5893083 hereafter referred to as “Eshghi”.
5. Regarding Claim 1, Eshghi discloses a method comprising:
receiving at least one policy definition (Eshghi: Column 2, lines 29-48. The model is equivalent to the policy definition.) defined by a user (Eshghi: Column 15, lines 32-59. The policy definition is at least in part defined by the users, as it is catered to the requirements of the users.), wherein the at least one policy definition includes at least one conditional relationship specification (Eshghi: Column 9, lines 56-60), and wherein

Art Unit: 2444

the at least one policy definition programmatically specifies relationships between at least two resources in a set of resources in an autonomic computing system (Eshghi: Column 5, lines 39-45. Eshghi refers to the resources in plural form, meaning that it is reasonable to assume that more than one resource is present.) and defines at least one desired end state therefor (Eshghi: Column 2, lines 53-55), and

wherein the at least one conditional relationship specification indicates a relationship between at least two resources based on a state associated with each of the at least two resources (Eshghi: Column 9, lines 56-60. Eshghi provides for conditional states, where the service entity is available if certain conditions are met. These conditions constitute at least one state associated with each of the at least two resources.), and

wherein the at least one conditional relationship specification comprises at least one conditional statement (Eshghi: Column 9, lines 56-60. The relationships are conditional, and include statements such as the rules set forth in column 9, lines 65-68), and

wherein the at least one policy definition programmatically specifies relationships by using states associated with the at least two resources and indicating a decision sequence that is to be followed to reach the at least one desired end state based on the at least one conditional relationship specification (Eshghi: Column 2, lines 53-55. The conditional states indicate a decision sequence, as each step of the conditional statements is a decision.);

Art Unit: 2444

harvesting implicit relationships from among the set of resources via a self-discovery, wherein the set of implicit relationships at least indicate one or more of a set of resource dependencies for at least one resource in the set of resources and location requirements for at least one resource in the set of resources (Eshghi: Column 14, lines 11-15), and

wherein the set of implicit relationships are discovered automatically without the user explicitly specifying the implicit relationships (Eshghi: Column 14, lines 11-15);

determining, by the autonomic computing system, that a state of at least one resource in the set of resources substantially satisfies a predetermined requirement of the at least one conditional relationship specification (Eshghi: Column 9, line 56 to Column 10, line 30);

determining, by the autonomic computing system in response to the state of the at least one resource substantially satisfying the predetermined requirement, that the desired end state can be reached by applying the at least one policy definition conditioned by the at least one conditional relationship (Eshghi: Column 15, lines 24-32); and

placing the autonomic computing system in the desired end state by applying the at least one policy definition (Eshghi: Column 15, lines 24-32).

6. Regarding Claim 2, Eshghi discloses a method comprising:

receiving at least one policy definition (Eshghi: Column 2, lines 29-48. The model is equivalent to the policy definition.) defined by a user (Eshghi: Column 15, lines 32-59. The policy definition is at least in part defined by the users, as it is catered to the requirements of the users.), wherein the at least one policy definition includes at least one conditional relationship specification (Eshghi: Column 9, lines 56-60), and wherein the at least one policy definition programmatically specifies relationships between resources in an autonomic computing system (Eshghi: Column 5, lines 39-45) and defines at least one acceptable sub-state (Eshghi: Column 14, lines 60-64) and at least one desired end state for the automatic computing system (Eshghi: Column 2, lines 53-55);

determining that the desired end state for the autonomic computing system cannot be reached (Eshghi: Column 14, lines 60-64);

determining that the acceptable sub-state can be reached using at least one of priority ratings, conditional relationship specifications, and alternative relationship specifications (Eshghi: Column 14, line 64 to Column 15, line 2); and

placing the autonomic computing system in an acceptable state, wherein the acceptable sub state becomes a new end-state in response to the substitution (Eshghi: Column 14, line 64 to Column 15, line 2).

7. Regarding Claim 5, Eshghi discloses, the conditional relationship specifications comprise policy definitions that are applied when the state of a specified resource meets a predetermined requirement (Eshghi: Column 2, lines 53-67. The requirements are set

Art Unit: 2444

out in terms of the required entities and their relationships to the declarative model for specifying requirements which must be met for the service to be available.).

8. Regarding Claim 6, Eshghi discloses, the alternative relationship specifications comprise at least one of policy definitions, and conditional relationship specifications, that are applied when the state of a specified resource does not meet a predetermined requirement (Eshghi: Column 3, lines 56-60 and Column 4, lines 1-6. The inference engine determines that a sub-goal is no longer satisfied and seeks the operations which utilizes the operation (alternative relationship specifications) that will enable the sub-goal to be re-satisfied, the operation is based upon relationships between the services.).

9. Claim 7, lists all the same elements of claim 1, but in a computer readable medium form rather than method form. Therefore, the supporting rationale of the rejection to claim 1 applies equally as well to claim 7.

10. Claim 8, lists all the same elements of claim 2, but in a computer readable medium form rather than method form. Therefore, the supporting rationale of the rejection to claim 2 applies equally as well to claim 8.

11. Claim 11, lists all the same elements of claim 5, but in a computer readable medium form rather than method form. Therefore, the supporting rationale of the rejection to claim 5 applies equally as well to claim 11.

12. Claim 12, lists all the same elements of claim 6, but in a computer readable medium form rather than method form. Therefore, the supporting rationale of the rejection to claim 6 applies equally as well to claim 12.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 3, 4, 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eshghi in view of Sankaranarayan in US 2005/0033846, hereafter referred to as "Sankaranarayan."

15. Regarding Claim 3 Eshghi discloses the invention substantially as claimed. However, Eshghi does not explicitly teach: the priority ratings comprise an attribute assigned to a policy definition that determines at least one of a selection of conflicting policy definitions and a sequence for applying the policy definitions.

However, Sankaranarayan teaches, priority based policy and conflict determination and resolution (Sankaranarayan: Paragraph [0011] and Paragraph [0013]).

It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Sankaranarayan's teachings as explained above with the teachings of Eshghi, for the purpose of (Sankaranarayan: Paragraph [0008]) fulfilling the greater need, generated due to growing need for resources, for techniques to manage and allocate the limited resources. Eshghi provides motivation to do so, by providing a method and apparatus, which exploits automatic initiation of management tasks to facilitate the management of large networks (Eshghi: Column 2, lines 22-26).

16. Regarding Claim 4 Eshghi as modified by Sankaranarayan teaches the invention substantially as claimed. However, Eshghi does not explicitly teach: the attribute assigned to the policy definition is one of the following: mandatory, a numerical value, and not required.

In the same field of endeavor, Sankaranarayan teaches needed resource is secured by forcing the current user to release the resource thereby making it mandatory (Sankaranarayan: Paragraph [0013]).

It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Sankaranarayan's teachings as explained above with the teachings of Eshghi, for the purpose of (Sankaranarayan: Paragraph [0008]) fulfilling the greater need, generated due to growing need for resources, for techniques to manage and allocate the limited resources. Eshghi provides motivation to do so, by providing a method and apparatus, which exploits

Art Unit: 2444

automatic initiation of management tasks to facilitate the management of large networks (Eshghi: Column 2, lines 22-26).

17. Claim 9, lists all the same elements of claim 3, but in a computer readable medium form rather than method form. Therefore, the supporting rationale of the rejection to claim 3 applies equally as well to claim 9.

18. Claim 10, lists all the same elements of claim 4, but in a computer readable medium form rather than method form. Therefore, the supporting rationale of the rejection to claim 4 applies equally as well to claim 10.

Claim Rejections - 35 USC § 103

19. Claims 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sankaranarayan in view of Eshghi.

20. Regarding Claim 13, Sankaranarayan discloses an automatic resource manager for an autonomic computing system, the autonomic resource manager comprising:

memory for storing at least one policy definition (Sankaranarayan: Fig. 1, 28);

a resource monitor (Sankaranarayan: Paragraph [0010]) communicatively coupled with each resource in the autonomic computing system, for monitoring, and communicating data with, each resource in the autonomic computing system (Sankaranarayan: Paragraph [0010]. Resources are interfaced with the resource manager which monitors the resources);

an equivalency definer, communicatively coupled with each resource in the autonomic computing system, and with the memory, for defining at least one equivalency representing at least one set of equivalent resources in the autonomic computing system, and storing the at least one equivalency in the memory (Sankaranarayan: Paragraph [0079]. A resource quantifier 106 that determines the amount of resource available for allocation by the resource manager 102 which maintains this information.); and

an automation engine, communicatively coupled with the resource monitor, with at least one resource in the autonomic computing system, and with the memory, for providing available actions as defined by the at least one policy definition to the at least one resource in the in the autonomic computing system in order for the autonomic computing system to establish and maintain a desired end state (Sankaranarayan: Fig. 18, 1810 and Paragraph [0208], lines 1-5. The dispatch engine after receiving the activity event notifications from the resource manager dispatches further actions to be performed to satisfy the requirements.).

Sankaranarayan does not appear to explicitly disclose:

that the memory for storing at least one policy definition is defined by a user, wherein at least one policy definition includes at least one conditional relationship specification, and wherein the at least one policy definition programmatically specifies relationships between resources in an autonomic computing system, and defines at least one desired end state therefor; and wherein the at least one conditional relationship specification indicates a relationship between at least two resources based

Art Unit: 2444

on a state associated with each of the at least two resources, and wherein the at least one conditional relationship specification comprises at least one conditional statement, and wherein the at least one policy definition programmatically specifies relationships by using states associated with the at least two resources and indicating a decision sequence that is to be followed to reach the at least one desired end state based on the at least one conditional relationship specification;

a relationship harvester for harvesting implicit relationships from among the set of resources via a self-discovery, wherein the set of implicit relationships at least indicate one or more of a set of resource dependencies for at least one resource in the set of resources and location requirements for at least one resource in the set of resources

wherein the equivalency defines the at least one set of equivalent resources that can be substituted for one another in accordance with the at least one policy definition that includes at least one conditional relationship specification to arrive at the desired end state; and

a policy generator, communicatively coupled with the resource monitor and the memory, for providing in the memory a representation of a system-wide graph of available actions and at least one of: conditional relationship specifications, and alternative relationship specifications, corresponding with resources in the autonomic computing system.

However, Eshghi discloses each of these limitations for substantially similar reasons as presented with regard to claim 1.

Thus, it would have been obvious to combine the teachings of Eshghi and Sankaranarayan.

The suggestion/motivation for doing so would have been that combining Eshghi's teachings, for the purpose of **(see Eshghi, Col.2, lines 22-26)** facilitating the management of large networks with a method and apparatus, which exploits automatic initiation of management tasks. Sankaranarayan provides motivation to do so, by fulfilling the greater need, generated due to growing need for resources, for techniques to manage and allocate the limited resources **(see Sankaranarayan, ¶ 0008)**.

21. Regarding Claim 14, Sankaranarayan as modified by Eshghi teaches a resource harvester, communicatively coupled with each resource in an autonomic computing system, with the resource monitor, with the equivalency definer, with the policy generator, and with the memory, for specifying underlying relationships between resources in the autonomic computing system via self discovery (Sankaranarayan: Paragraph [0019] Paragraph [0050]. Even though the resource consumer does not know what resources it requires, the intelligent interface component determines which resources are needed (self discovery) and informs the resource manager to generate the rules accordingly.).

22. Regarding Claim 15, Sankaranarayan as modified by Eshghi teaches the priority ratings comprise an attribute assigned to a policy definition that determines a sequence for applying the policy definition (Sankaranarayan: Fig. 5, table 500).

23. Regarding Claim 16, Sankaranarayan substantially discloses the elements of claim 13. However, Sankaranarayan does not explicitly teach: the conditional relationship specifications comprise policy definitions that are applied if the state of a specified resource meets a predetermined requirement.

In the same field of endeavor, Eshghi teaches, that the requirements are set out in terms of the required entities and their relationships to the declarative model for specifying requirements which must be met for the service to be available (Eshghi: Column 2, lines 53-57).

It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Eshghi's teachings as explained above with the teachings of Sankaranarayan, for the purpose of (Eshghi: Column 2, lines 22-26) facilitating the management of large networks with a method and apparatus, which exploits automatic initiation of management tasks. Sankaranarayan provides motivation to do so, by fulfilling the greater need, generated due to growing need for resources, for techniques to manage and allocate the limited resources (Sankaranarayan: Paragraph [0008]).

24. Regarding Claim 17, Sankaranarayan substantially discloses the elements of claim 13. However, Sankaranarayan does not explicitly teach: the alternative relationship specifications comprise at least one of policy definitions and conditional

Art Unit: 2444

relationship specifications that are applied when the complete desired end state of the system cannot be met.

In the same field of endeavor, Eshghi teaches that the inference engine determines that a sub-goal is no longer satisfied and seeks the operations which utilizes the operation (alternative relationship specifications) that will enable the sub-goal to be re-satisfied, the operation is based upon relationships between the services (Eshghi: Column 3, lines 56-60 and Column 4, lines 1-6).

It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Eshghi's teachings as explained above with the teachings of Sankaranarayan, for the purpose of (Eshghi: Column 2, lines 22-26) facilitating the management of large networks with a method and apparatus, which exploits automatic initiation of management tasks. Sankaranarayan provides motivation to do so, by fulfilling the greater need, generated due to growing need for resources, for techniques to manage and allocate the limited resources (Sankaranarayan: Paragraph [0008]).

25. Regarding Claim 18, Sankaranarayan substantially discloses the elements of claim 13. Sankaranarayan further discloses distributed resources (Sankaranarayan: Paragraph [0082]).

However, Sankaranarayan does not explicitly disclose:

receiving at least one policy definition defined by a user, wherein the at least one policy definition includes at least one conditional relationship specification, and wherein

Art Unit: 2444

the at least one policy definition programmatically specifies relationships between resources in an autonomic computing system and defines at least one acceptable sub-state and at least one desired end state for the autonomic computing system; and

the alternative relationship specifications comprise at least one of policy definitions and conditional relationship specifications that are applied when the complete desired end state of the system cannot be met.

However, Eshghi discloses these limitations for substantially similar reasons as presented with regard to claim 3.

Accordingly, it would have been obvious to combine the teachings of Eshghi with Sankaranarayan.

The suggestion/motivation for doing so would have been for the facilitating the management of large networks with a method and apparatus, which exploits automatic initiation of management tasks. Sankaranarayan provides motivation to do so, by fulfilling the greater need, generated due to growing need for resources, for techniques to manage and allocate the limited resources (Sankaranarayan: Paragraph [0008]).

26. Regarding Claim 19, Sankaranarayan as modified by Eshghi teaches the invention substantially as claimed. Sankaranarayan further discloses (Page 5, ¶0082, lines 1-3) distributed resources. Sankaranarayan also discloses (Page 1, ¶0011, lines 3-6 & ¶0013, lines 7-11) priority based policy and conflict determination and resolution.

Art Unit: 2444

27. Regarding Claim 20, Sankaranarayan as modified by Eshghi substantially discloses the elements of claim 18. However, Sankaranarayan does not explicitly teach: the conditional relationship specifications comprise policy definitions that are applied if the state of a specified resource meets a predetermined requirement.

In the same field of endeavor, Eshghi teaches the requirements are set out in terms of the required entities and their relationships to the declarative model for specifying requirements which must be met for the service to be available (Eshghi: Column 2, lines 53-57).

It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Eshghi's teachings as explained above with the teachings of Sankaranarayan, for the purpose of (Eshghi: Column 2, lines 22-26) facilitating the management of large networks with a method and apparatus, which exploits automatic initiation of management tasks. Sankaranarayan provides motivation to do so, by fulfilling the greater need, generated due to growing need for resources, for techniques to manage and allocate the limited resources (Sankaranarayan: Paragraph [0008]).

28. Regarding Claim 21, Sankaranarayan-Eshghi substantially discloses the elements of claim 18. However, Sankaranarayan does not explicitly teach: the alternative relationship specifications comprise at least one of policy definitions and conditional relationship specifications that are applied when the complete desired end state of the system cannot be met.

In the same field of endeavor, Eshghi teaches the inference engine determines that a sub-goal is no longer satisfied and seeks the operations which utilizes the operation (alternative relationship specifications) that will enable the sub-goal to be re-satisfied, the operation is based upon relationships between the services. (Eshghi: Column 3, lines 56-60 and Column 4, lines 1-6).

It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Eshghi's teachings as explained above with the teachings of Sankaranarayan, for the purpose of (Eshghi: Column 2, lines 22-26) facilitating the management of large networks with a method and apparatus, which exploits automatic initiation of management tasks. Sankaranarayan provides motivation to do so, by fulfilling the greater need, generated due to growing need for resources, for techniques to manage and allocate the limited resources (Sankaranarayan: Paragraph [0008]).

Response to Arguments

29. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

30. It is noted that Applicant has amended the claims substantially. However, certain concepts should further be elaborated on.

First, how the "policy definition programmatically specifies relationships by using states..." More specifically, how the states are used to specify the relationships.

Second, how the states are associated with the at least two computing resources. The term “associated” only requires that the states are somehow related to the computing resources, but does not place any specific requirement as to what the relation is.

Third, details on how the “self-discovery” is performed should be included, as “self-discovery” can include any method by which the device or devices performing the method can find the relationships.

Fourth, the implicit relationships that are harvested do not appear to have any functionality within the instant claim. The claim should be amended to demonstrate clearly what functionality the implicit relationships are utilized, and how the implicit relationships are utilized for that functionality.

Fifth, elaboration on how “the desired end state can be reached by applying the at least one policy definition conditioned by the at least one conditional relationship specification” occurs.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Christensen whose telephone number is (571)270-1144. The examiner can normally be reached on Monday through Thursday 6:30AM - 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. C./
Examiner, Art Unit 2444
/William C. Vaughn, Jr./
Supervisory Patent Examiner, Art Unit 2444